Facilities Quarterly

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY◆FACILITIES DIVISION NEWSLETTER

OCTOBER 2003

JOB ORDER CONTRACTING COMES TO THE LAB

Every year, Facilities is responsible for completing hundreds of small and midsize construction projects. Many are subcontracted to outside firms through a conventional competitive bidding process. But often, this form of procurement is not well-suited to small project work. Beginning in January, Facilities, with help from consultant The Gordian Group, is going to do something about it.

Joe Hollett, regional manager for the Gordian Group, is working with Facilities Project Management, headed by Charlie Allen, to set up a new system called Job Order Contracting (JOC). Gordian Group is developing bid documents for a new type of construction contract, providing contract management software, and providing post-award contract support.

Over the 15 to 20 years that JOC has been used, reported benefits have included reductions in cost, improved delivery times, improved quality, and increased utilization of small and disadvantaged businesses. According to Hollett, total savings can reach 8 to 15 percent over other contracting methods, including 4 percent in direct construction costs and other savings through reductions in A/E fees and the cost of bid document preparation and the bid process itself.

Many public sector owners use JOC to avoid problems with design-build, design-bid-build, and other forms of small and medium project contracting. These problems fall into two catego-

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FACILITIES PROFILE: Steve Blair

Some will remember the Hammond organ as a substantial piece of musical furniture proudly displayed—and sometimes played—in upscale 1960s suburban living rooms. Others, like the Civil/Structural Section's Steve Blair, regard it, and specifically the Hammond B3 with a Leslie speaker, with something bordering on passion.

Back in the '60s, the marketing objective of the Hammond Organ Company was to put "an organ in every home." Steve has taken that just a little farther, with Hammonds in the living room, bedroom, basement and garage of his Orinda house—about 30 at last count.

Steve Blair and his Hammonds

So what kind of person collects vintage electric organs? In Steve's case, its one who brings a lot of energy to everything he does. Since joining Berkeley in 1976, straight out of the University of Michigan, Steve has provided engineering design and support for roads, parking lots and 14 new buildings at Berkeley Lab. According to Civil/Structural Lead Fred Angliss, "Steve is pivotal to any of the civil engineering for the site from storm drainage to landslide repair, paving and parking layouts. He shines in performance of year end projects and ensuring that the Lab's resources are effectively and constructively utilized." Then

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Facilities Quarterly is available online at http://fac.lbl.gov/Facilities.

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ries: "Problem number one," says Hollett, "is that, with traditional contracting, you need to hire an A/E, bid it, award it, and then mobilize the contract." This process involves cost and takes time, up to six to eighteen months.

The second problem is change orders and claims. When a construction firm is awarded a one-time contract, it tries to make as much profit as possible from that one opportunity. The temptation is to cut corners and submit large numbers of change orders and claims.

Under the JOC system, the job order contract is awarded periodically for an indefinite amount of work, which is defined by a minimum and maximum dollar value. At Berkeley Lab, the initial contract will be for one year, for a minimum of $50,000 and a maximum of $5 million. Under the contract, separate projects are handled as work orders. Berkeley Lab is only obligated to award up to the minimum. The maximum creates an incentive for the contractor to perform well—an incentive that is lacking when each project is bid separately. "We're trying to create a repeat-business incentive," Allen explains. "How is the subcontractor going to get repeat business? By working safely, in a timely manner, and by cooperating with us." That also means, as Hollett notes, that "…change orders and claims go away. Unforeseen conditions are handled under a new work order."

The bid documents themselves are key to the JOC system. Instead of defining a precise scope of work, the bid documents include a "construction task catalog." The construction task catalog is a database of tens of thousands of construction tasks. Each task contains a description, unit of measurement (such as one panel of wall board, for instance) and a unit price. The unit price is based on local costs for labor, equipment and materials. The contractor's bid consists of two "adjustment factors"—one for normal working hours and one for overtime—which are applied to the prices in the construction task catalog, and need to cover all the contractor's indirect costs, such as overhead, profit, bonds, insurance, design and contingency. The successful bidder is then locked into these rates up to the maximum contract value.

According to Allen, the JOC system will target not only smaller non-cap and GPP projects, but may also be useful to "clean up" disputed or added work on major line item projects. Implementation of the JOC system calls for proposals due by October 30 and award and mobilization in January.

From the Division Director …

With the start of the new fiscal year, Facilities is focused on the activities and challenges of the upcoming twelve months. In the near future, significant efforts will be expended on completing the Laboratory's new Long Range Development Plan, the groundbreaking and construction start for the Molecular Foundry, construction start for Building 49, and completion of the Sitewide Water project. All of this is set in the background of the myriad of other activities required to keep the Laboratory supplied with necessary construction, maintenance, transportation and utility services.

This year will also see the deployment of the new Facilities organizational structure with three new departments of Plant Operations, Design & Construction, and Site Services. A search is underway now to fill two of these three positions. This restructuring will enable Facilities to better focus on specific needs of the Laboratory and provide clearer lines of communication and accountability for scientific clients.

This year will also see the deployment of a pilot program that will provide Facilities single points of contact for divisions. This program will utilize a senior manager from Facilities as a dedicated liaison who will be available to a Division Director to facilitate communications, coordination and problem resolution. The intent is to provide an additional resource to be deployed when normal communication channels do not meet the needs of the division. The pilot will begin with Physical Biosciences and be evaluated for expansion to other divisions in the upcoming months.

FY 2004 promises to be a challenging and exciting year for Facilities!

George Reyes

BENEFITS GIVES OPEN ENROLLMENT "HEADS UP"

This year, Benefits Open Enrollment will only be available online, at atyourservice.ucop.edu. Unlike last year, you can't use the telephone to make your changes.

For Facilities employees lacking access to the Internet, Benefits will hold a training session on Friday, November 7 in the Building 50 Auditorium and in the Computer Lab (51L) on Monday, November 10.

Unlike past years, you won't receive a mail-out summarizing your current benefits.To hear your current enrollments call 1-800-888-8267 or check your paycheck stub. In October, you will receive a booklet with key plan changes, medical plan highlights etc.

In November, when Open Enrollment begins, select the Open Enrollment icon on the At Your Service website. You will find everything you need to complete your transactions.

To access personal information on the At Your Service website you must know your UC Personal Identification Number (PIN). You can reset your PIN on the website or by calling Benefits at x6403.

FOCUS ON SERVICE: Utilities Analyst Syed Ali

Photo by Roy Kaltschmidt

The Facilities Division welcomes Syed Ali, who recently joined Berkeley Lab as a senior resource analyst. Reporting to Mechanical Engineering Section Chief Doug Lockhart, Ali's job is to minimize Berkeley Lab's use of electricity and gas through energy-saving strategies and education. In addition to working with Berkeley Lab divisions , he will be interacting with DOE, UC Berkeley, and local utilities.

Prior to joining Berkeley Lab, Ali was with Siemens Medical in Hoffman Estates, Illinois, where he worked with major customers and within Siemens to reduce energy costs. Ali is'"really excited about being here," and applying his experience to improving energy use at Berkeley Lab.

For Ali, "Every month is Energy Awareness Month. Conservation of energy means saving the environment and also reducing utility cost." For the rest of us, October is National Energy Awareness Month.Tips on conserving energy can be found on the DOE website, at www.eere.energy.gov/consumerinfo/energy_savers/. For information on the Federal Energy Management Program (FEMP) see their website at www.eere.energy.gov/femp/.

PROFILE *continued from page 1*

there are the ways in which Steve has contributed to the life of the Lab. Back in 1981 he and some fellow workers organized the "SUDZ" softball team, and he's been playing ever since. Steve is now commissioner of the LBNL Softball League. He's also President of the Music Club, and serves on the Employee Activities Association Committee.

Steve started playing bass guitar in a rock band in his home town of Detroit in fifth grade, but his real love was always the Hammond. "Detroit was a big rock and roll center," he recalls,""and Hammond/Leslie was *the* sound. All the bands had them, but they were expensive—about the price of a new Chevrolet."

Hammonds remained popular even after production stopped in 1974, but eventually the arrival of electronic synthesizers—more versatile and far more portable than the B3 (which can weigh 400 lb)—brought the end of an era.

For Steve,

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COMPLIMENTS

Ron McKeever of JGI in Walnut Creek writes that Don Marcell, who spent four weeks at JGI on a major painting project, "…is a pleasure to work with—and his painting skills are second to none."

WORK REQUEST CENTER

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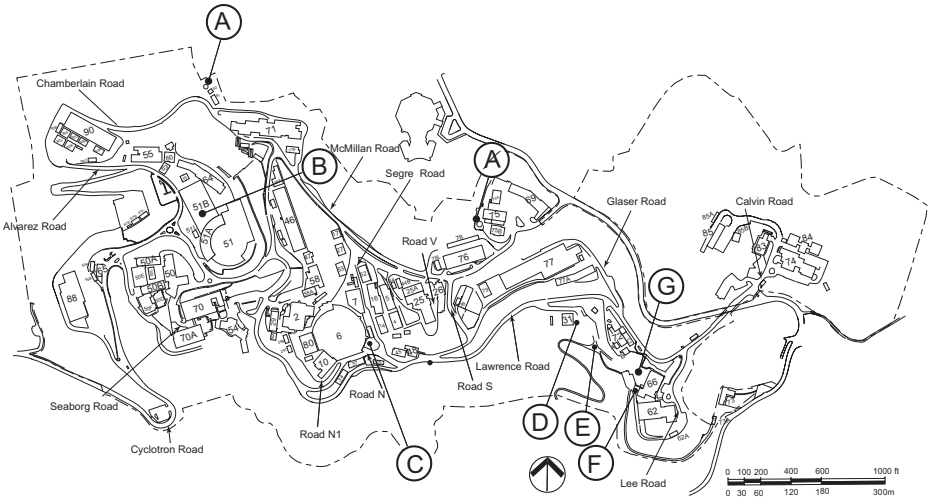
Web	web3.lbl.gov/wrc

The WRC welcomes questions or comments about Facilities Quarterly.

CONSTRUCTION AND YOU

Current construction projects affecting parking, or vehicular or pedestrian circulation



Project Contacts. The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

(A) Sitewide Water Distribution Upgrade

OCT	NOV	DEC

As this project nears completion, there will be some effects on parking around Building 82 and 76.

(B) Bldg 51: Demolition

OCT	NOV	DEC

Demolition activities will impact access and parking in the area around Building 51B. Occasional obstruction of traffic may occur on the adjacent part of Alvarez Rd. Parking on the north side of Building 51B and the west side of Building 56 will be reserved for contractor use. Large-truck traffic will begin in December. (Richard Stanton, x6221)

(C) Bldg 6: User Support Space

OCT	NOV	DEC

Trucks will use the driveway area on the southeast side of Bldg 6 intermittently for loading and unloading. Occasional obstruction of traffic may occur. (Dan Galvez, 6213)

(D) Bldg 31: NMR Installation

OCT	NOV	DEC

Construction of the NMR Facility will impact access to Bldg. 31 and areas to the north and south. Occasional obstruction of traffic may occur. (Bill Wu, x5216)

(E) Bldg 31: Roadway Renovations

OCT	NOV	DEC

Construction will impact access and parking around Building 31. (Dan Galvez, x6213)

(F) Bldg 66: Emergency Generator Replacement

OCT	NOV	DEC

Construction will impact access and parking on the south side of the building. (Dan Galvez, x6213)

(G) Bldg 66/72: Reroute Cooling Water Line

OCT	NOV	DEC

Construction will impact access and parking at Building 66 and on Lawrence Rd. between Buildings 66 and 72. (Dan Galvez, x6213)

"CAUTION—CONSTRUCTION AREA"

Construction barricades and warnings are there for your protection. Under no circumstances should you cross a construction barricade, or disobey posted warnings or directions. Contact the Project Manager for escorted access to construction areas.

ON THE DRAWING BOARD

projects in study or conceptual design

Bldg 49: Office Building

This 60,000-sq-ft (5600 sq-meter) office building will be designed and constructed by a private developer on the LBNL site adjacent to Cyclotron Road and near the Blackberry Gate. The building will contain four stories of offices and a fifth-floor conference center. A bridge will connect Building 50 to the fifth floor. (Dave Tudor, x4171)

User Support Building

This 30,000-sq-ft (2800 sq-meter) building will be located on the site of the current Building 10. The project will be double the size of Building 10 and provide modern research support space and offices. Currently, the project is included in the DOE FY 2005 funding cycle, with a planned occupancy in FY 2008. The USB will support researchers at all of LBNL's User Facilities and provide additional staging area for ALS experiments. (Dave Tudor, x4171)

IN PROGRESS

funded projects

Bldg 6: Advanced Light Source User Space

Construction is underway to provide additional research support space in the ALS. Project completion is scheduled for December 2003. (Dan Galvez, x6213)

Bldg 31: NMR Installation

Funded for FY 2003, this project will build out the Building 31 high bay with an insulated enclosure that will house the 800-MHz NMR system and supporting utilities. Construction is complete. The magnet has arrived and is expected to be operational in November. (Bill Wu, x5216)

Bldg 51B: EPB Hall Demolition

Demolition of Building 51B is scheduled to begin in late November. The high-bay structure will be taken down to the floor slab. (Richard Stanton x6221)

Bldg 64: Addition of Labs and Offices

This project will build out the last high-bay space in Building 64, creating additional laboratories and office spaces. The scope includes addition of a second floor, a new elevator, rearrangement of exit paths, and removal of an injector from Room 64-131. Design is complete and the project is out to bid. (Bill Wu, x5216)

Building 77: Rehabilitation of Building Structure and Systems, Phase 2

This project will correct mechanical, electrical and architectural deficiencies in Buildings 77 and 77A. Design is underway. (Marty Baron, x4135)

Bldg 90: HVAC Upgrade Project

This project will use a technology invented by EETD scientists to seal leaks in the building HVAC system. Building occupants will be kept fully informed of project activities through a variety of means.

Molecular Foundry

Berkeley Lab's newest User Facility, the Molecular Foundry, will be constructed near the Building 72 complex. It will consist of a research building of about 89,000 gross sq ft (8300 gross sq meters) and a utility center of about 6,000 gross sq ft (560 gross sq meters). The research building will have state-of-the-art clean rooms for the design, modeling, synthesis, processing, fabrication and characterization of novel molecules and nanoscale materials. Offices and laboratories will support nanoscale research in materials science, physics, chemistry, biology, and molecular biology. Construction of the Molecular Foundry is scheduled to begin in December 2003. (Joe Harkins, x7486)

Sitewide Water Distribution Upgrade, Phase 1

Much of Berkeley Lab's fresh-water supply system has been in place for over 30 years. This project has replaced about 0.9 mile (1.5 km) of cast iron pipe and upgraded the remaining 5 miles (8 km) of pipe. It is also providing corrosion protection, new valves, pressure reducing stations, improvements to existing water storage tanks, and a new water storage tank in the East Canyon area. Construction is scheduled for completion in December 2003. (Charles Allen, x6438)

PROJECTS ON THE WEB

Frequently updated information on over 100 large and small Facilities projects is available at fac.lbl.gov/Facilities/Projects/status or by clicking on the Facilities Project Status link in the Berkeley Lab A-Z Index.

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however, this was just the beginning. As he explains, "In the mid-80's Hammonds became cheap because people were dumping them for synthesizers." This enabled Steve to buy his first Hammond organ—a B3 with a Leslie Tone Cabinet—in 1989. "I just wanted a real organ," he recalls. Three years later he bought another. Then, as he admits, "It went up exponentially." Today, he has what is probably one of the largest collections in the western United States.

First produced in 1935, the Hammond organ is a gadgeteer's dream. Musical notes are produced by up to 91 silver-dollar-size "tone wheels"—one for each musical frequency—mounted on a common rotating shaft. As these steel wheels spin next to electromagnetic pickups, patterns of teeth or "bumps" on each wheel induce a current corresponding to a specific audio tone.

The Leslie speaker (for the Hammond aficionado there are no others) occupies a separate cabinet. The Leslie's treble and bass speakers broadcast, respectively, into a rotating horn and counter-rotating drum, producing a distinctive tremolo effect. Steve has played a B3 and Leslie at the Cafeteria for such events as the Open House and Runaround. After one show, a Berkeley Lab scientist, after studying the rotating Leslie horn, asked if it was some type of antique rotating fan.

To keep all those spinning parts, motors, bundles of wire, and vacuum tubes working, Steve trades knowledge and hardware with enthusiasts from all over the world, sending parts as far away as Finland. He's driven as far as San Diego and Seattle to pick up organs, once hauling three B3's and a Leslie in his Astro van from Los Angeles. "I had to hang one of the benches off the back bumper," he recalls.

These days, Steve says, the Hammond is enjoying a resurgence: "Its gone a full 360 degrees. Now the bands want them." He recently provided an organ to a San Francisco band, and has loaned his B3's to touring musicians including the Scottish band Belle and Sebastian, and jazz virtuosos Jimmy Smith and Joey DeFrancesco.

What started out as a hobby has evolved into what Steve terms "...a Hammond rescue operation. I've found them by the side of the road. People put them in the trash because a few keys were broken." Not all old Hammonds are unloved, though. These days original owners are parting with their treasured Hammonds. "They want to know where their organ is going, that it will be taken care of." And true to the Hammond Company's old slogan, Steve finds them a home. "I recently placed an organ with a family in Walnut Creek," he says, and this year, at his 50th birthday party, Steve gave away four organs as door prizes, "Just to find them homes."

SAFETY CORNER: Grounds Earns Award

Facilities Groundskeepers are the people who maintain Berkeley Lab's trees, shrubs, and lawns, create new gardens, clear the hillsides of weeds, clean off the walkways and stairways, and, in the winter, brave the elements to repair storm damage and keep the storm drains clear.

In the course of performing their work, they use chainsaws, weed whippers, cutters, pruners, and blowers. They drive trucks. They climb steep hills, work in the rain and hot sun. In short, they have all sorts of opportunities for accidents. So how many accidents have they had? Try none—no recordable accidents or injuries— in six years.

Recently, Facilities Director George Reyes gave Grounds Crew—Tien Huynh, Sau Pham, and Nick Thomsic—spot awards in recognition of their spotless safety record. According to Grounds Superintendent Bob Berninzoni, the secret of their success is mainly common sense. "When it's raining we put on rain gear. In the summer, we start early and do heavier tasks in the morning while its cool, lighter work like weeding in the afternoon. We train a lot and have biweekly safety meetings, and we're very careful with equipment and wear our safety gear."

Tips for weekend gardeners? Berninzoni advises to "stretch before you do anything—that's what our guys do—and lift properly."

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